

FEDERAL GRANT OPPORTUNITIES

updated 6/4/10

new opportunities or changes highlighted

Open grants & deadlines:

- **FY 2009 Global Climate Change Mitigation Incentive Fund (GCCMIF)**
- **Federal Loan Guarantees for Projects that Employ Innovative Energy Efficiency, Renewable Energy, & Advanced Transmission & Distribution Technologies** *(September 14, 2009-August 24, 2010; November 13, 2009-December 31, 2010)*
- **High Impact Supply Chain R&D for PV Technologies and Systems** *(July 2, 2010)*
- **Smart Grid Research, Development, and Demonstration** *(June 22, 2010)*
- **Renewable Energy Systems and Energy Efficiency Improvements** *(June 30, 2010)*
- **National Administrator of the Solar Instructor Training Network** *(June 15, 2010)*
- **Geothermal Energy Production from: (A) Low-Temperature Resources; (B) Coproduced Fluids; and (C) Geopressured Resources** *(July 9, 2010)*
- **Genomic Science and Technology for Energy and the Environment** *(Pre-Application: June 28, 2010 & Application: September 10, 2010)*
- **Solid-State Lighting Product Development – Round 7** *(July 14, 2010)*
- **Midsize Turbine Development Projects** *(July 14, 2010)*
- **Innovation Ecosystem Development Initiative** *(July 9, 2010)*
- **Enhancing Short Term Wind Energy Forecasting For Improved Utility Operations** *(July 13, 2010)*
- **Sustainable Bioenergy Feedstock Production Systems** *(July 16, 2010)*
- **Upgrading of Biomass Fast Pyrolysis Oil (Bio-oil)** *(July 9, 2010)*

FY 2009 Global Climate Change Mitigation Incentive Fund (GCCMIF)

- Applications due: Rolling basis
- Visit <http://www.eda.gov/> for additional information and for any programming changes
- GCCMIF established to strengthen the link between economic development and environmental quality
- GCCMIF finances projects that foster economic development by advancing the green economy in distressed communities
- Applications are competitive, based on the Economic Development Association's standard eligibility and distress criteria, investment policy guidelines, and funding priority considerations
- Projects must achieve the same job and capital investment outcomes as traditional EDA investments
- Project must be one of the following:
 - Renewable energy (wind, solar, biomass, and geothermal)
 - Energy efficiency
 - Reuse/Recycling/Restoration (reuse of a given product or production of a new or innovative product for recyclable materials; also includes ecosystem restoration)
 - Green building (new construction or renovation certified by USGBC in LEED or comparable certificate program)
- Must result with outputs:
 - Development and/or manufacture of green end-product that furthers or contributes to sustainability and/or environmental quality (activity, item, plan, or program)
 - Greening of an existing function or process (investments that result in green enhancements to the resource, energy, water, and/or waste efficiency of an existing function or process)
 - Creation or renovation of a green building

ARRA - Federal Loan Guarantees for Projects that Employ Innovative Energy Efficiency, Renewable Energy, & Advanced Transmission & Distribution Technologies

Funding Opportunity Announcement (FOA) # DE-FOA-0000140

- Application due dates:
 - Parts I & II submission dates depend on rounds
 - Part I: September 14, 2009 – August 24, 2010
 - Part II: November 13, 2009 – December 31, 2010
- Submission of applications for loan guarantees under Title XVII of the Energy Policy Act of 2005 in support of debt financing for projects in the U.S. that employ energy efficiency, renewable energy, and advanced transmission and distribution technologies that constitute new or significantly improved technologies that are not a commercial technology
- DOE will make up to \$8.5 billion in loan guarantee authority available
- Despite the due dates, the solicitation will remain open until the aggregate \$8.5 billion in loan guarantee authority is fully obligated
- Visit <http://www.fedconnect.net/> to view the full FOA, and consult <http://www.energy.gov/>, <http://www.whitehouse.gov/omb/> or <http://www.recovery.gov/> for additional information
- Only 3 categories of projects that begin construction no later than 9/30/11 are eligible under Section 1705 of Title XVII and may have their credit subsidy costs covered by appropriated funds under the Recovery Act
 1. Renewable energy systems, including incremental hydropower, that generate electricity or thermal energy and facilities that manufacture related components
 2. Electric power transmission system projects, including upgrading projects
 3. Leading edge biofuel projects that will use technologies performing at the pilot or demonstration scale that the Secretary determines are likely to become commercial technologies and will produce transportation fuels that substantially reduce life-cycle greenhouse gas emissions compared to other transportation fuels
- Eligible projects in categories listed below and which fall within 1 of the 2 distinct project types described:
 1. Alternative fuel vehicles
 2. Biomass
 3. Efficient electricity transmission, distribution, and storage
 4. Energy efficient building technologies and applications
 5. Geothermal
 6. Hydrogen and fuel cell technologies
 7. Energy efficiency projects
 8. Solar
 9. Wind & hydropower

- Technology categories for 1705 eligible projects are limited to renewable energy systems projects, electric power transmission systems projects, and leading edge biofuels projects
- Per DOE, eligible projects under categories 1, 4, 6, & 7 generally do not constitute 1705 eligible projects for which the credit subsidy costs may be paid for out of funds appropriated under the Recovery Act to pay for the costs of loan guarantee issued under the Section 1705 program
- Project types: manufacturing or stand-alone; see FOA for list of primary goals and objectives for these project types

High Impact Supply Chain R&D for PV Technologies and Systems

DE-FOA-0000234

- Application Due Date: July 2, 2010
- Registration Requirements
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
- Estimated Funding
 - Amount Multiple Year Awards: Approximately \$30-40 million in funding is expected to be available. \$10,000,000 is expected to be available for new awards in FY 2010, with additional funding expected to be available for awards made under this announcement in years FY 2011 up to FY2013. All funding is subject to the availability of funds.
 - Expected Awards: 5-10 with 36 month performance period.
- Maximum and Minimum Award Size
 - Ceiling (i.e., the estimated maximum amount of federal funds for an individual award made under this announcement): \$ 4,800,000 (\$1.6 million per year for three years).
 - Floor (i.e., the estimated minimum amount of federal funds for an individual award made under this announcement): \$600,000 (\$300,000 per year for two years)
 - Expected Award Size (i.e., the anticipated amount of federal funds for an individual award made under this announcement): \$ 3,000,000 (\$1.0 million per year for three years).
- Eligible Applicants: All types of domestic entities, including DOE/NNSA National Laboratory Contractors, are eligible to apply, except other Federal agencies, non-DOE Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
- Cost Sharing While cost share of 50% is desired, the required cost share must be at least 20% of the total allowable costs of the project (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable costs of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 CFR Part 600 for the applicable cost sharing requirements.)
- Objective: identify and accelerate the development of cross-cutting and unique products or processes that are expected to have a disruptive impact on the photovoltaics (PV) industry
- Priorities:
 - Increasing the overall PV system efficiency and lowering the total manufacturing costs are essential for the success of the SETP plans.
 - Program activities are currently bringing emerging technologies and manufacturing processes to market.
 - The program focus is primarily on accelerating product and process development at the product level, whether cell, module or system.
 - Successfully developing technologies, implementing economies of scale, and vertically integrating the business structure to drive down costs.
- Project Objectives
 - This opportunity presumes the existence of a wealth of applicable technologies from industries and companies outside the PV industry that could be optimized for domestic PV-specific manufacturing methods and products.]

- Successful applicants to this FOA will propose an R&D project based on a concept, process, or prototype, which has been demonstrated at a pre-commercial scale, and show how this technology has significant potential for near-term impact on a substantial segment of the PV industry.
- Successful applicants will also describe how they plan to bring the technology they develop under the award to market within 1–3 years from the date of award and within the time span of the award.
- Cross-cutting cost reduction opportunities developed in the U.S. that will provide a generic benefit across a segment of the PV industry.
- Scope: Research and Development projects for research, evaluation, verification, and/or testing. Innovation in the PV supply chain covers a very broad range of topics. Possible topics are listed below.
 - Note: The following items are for illustration purposes only and do not restrict the research encouraged under this FOA.
 - Flexible barrier or protective coatings
 - Transparent conductors (new materials or deposition)
 - Contacts (high aspect ratio, non-contact, non-silver)
 - High performance glass (low emissivity, high transmission, high temp., low soiling)
 - Thermal solutions (concentrating photovoltaic (CPV) heat sinks, infrared rejection)
 - Light trapping (for very thin cells, alternative cell structures)
 - Adhesives/Encapsulants (faster processing, flexibility)
 - Next Generation Power Controllers and Components
 - Streamlined diagnostic tools for PV solar system operation
 - Advanced PV solar manufacturing equipment
 - Broadly applicable in-situ instrumentation
 - Materials recycling
 - All equipment supplier aspects of feedstock, wafer, cell, and module fabrication or assembly
 - Non-module supply chain technologies

Smart Grid Research, Development, and Demonstration

DE-FOA-0000313

- Application Due: June 22, 2010
- Registration Requirements
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
- Estimated Funding: Approximately \$30,000,000 in DOE funding is expected
 - Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$6,000,000 for Area of Interest 1, \$3,000,000 for Areas of Interest 2 and 3 (DOE Share)
 - Floor (i.e., the minimum amount for an individual award made under this announcement): \$ 500,000 for all areas of interest (DOE Share)
- Expected Awards (3-5 year performance)
 - Area of Interest 1: Three awards \$500,000 to \$6,000,000
 - Area of Interest 2: Four awards \$500,000 to \$3,000,000
 - Area of Interest 3: Four awards \$500,000 to \$3,000,000
- Eligible Applicants: All types of entities are eligible to apply, except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
- Cost Sharing: The cost share must be at least 20% of the total allowable costs for research and development and at least 50% of the total allowable costs for demonstration projects (i.e., the sum of the Government share and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 CFR part 600 for the applicable cost sharing requirements.)
- Objective of this announcement is to select projects that will support achieving the Smart Grid 2030 Targets of:
 - 20% reduction in the nation's peak demand
 - 100% availability to serve all critical loads at all times and a range of reliability services for other loads
 - 40% improvement in system efficiency and asset utilization to achieve a load factor of 70%
 - 20% of electricity capacity from distributed and renewable energy sources (200 GW)
- Areas of Interest
 - Integrated distribution management systems (DMS) are needed for a more flexible, automated, and self-healing grid with many distributed energy resources (DER) to achieve the Smart Grid 2030 Target of grid reliability and resilience.
 - Area of Interest 1 should discuss how the proposed integrated DMS will meet the following general requirements:
 - Management and forecasting of demand response, distributed generation, and storage resources
 - Dispatch of active and reactive power (through aggregation of DER) for optimization

- of losses and voltage profile
 - Optimal operation of voltage control and distribution automation
 - Detection, isolation, and response to faults, vulnerabilities, and threats
 - State estimation to facilitate accurate and near real-time reliability and security assessment
 - Integration of network models, market models, and renewable resource models
- Area of Interest 2: Advanced sensing, monitoring, and control technologies for enhanced asset utilization and grid reliability.
 - Prognostic Health Management (PHM): PHM technologies are sought to increase the reliability of the grid and the lifetime of the assets themselves.
 - Distribution System Sensing: Distributed sensors are needed to improve the detection and isolation of system power quality issues, faults, and equipment failure.
- Area of Interest 3: Voltage regulation and overvoltage protection for high penetration of renewable generation.
 - Standards-conforming voltage regulation and protection coordination schemes are critically important for achieving the Smart Grid 2030 Target of high penetration levels of distributed and renewable energy generation.

Renewable Energy Systems and Energy Efficiency Improvements

RDBCP-10-REAP-RES-EEI

- Applications Due: June 30, 2010
- For additional information and application information: <http://www.grants.gov/>
- Expected Number of Awards: 2000
- Estimated Total Program Funding: \$51,500,000
- Award Ceiling: \$500,000
- Award Floor: \$1500
- Cost Sharing or Matching Requirement: Yes
- Eligible Applicants: Eligible applicants are agricultural producers and rural small businesses. All agricultural producers, including farmers and ranchers, who gain 50% or more of their gross income from the agricultural operations are eligible. Small businesses that are located in a rural area can also apply. Rural electric cooperatives may also be eligible to apply. Additional Information on Eligibility: Citizenship - To be eligible, applicants must be individuals or entities at least 51 percent owned by persons who are either: 1) citizens of the United States (U.S.), the Republic of Palau, the Federated States of Micronesia, the Republic of the Marshall Islands, or American Samoa; or 2) legally admitted permanent residents residing in the U.S. Project - The project must be the purchase and installation or construction of a renewable energy system or energy efficiency improvement. Eligible projects include: retrofitting lighting or insulation, or purchasing or replacing equipment with more efficiency units. Eligible renewable energy projects include projects that produce energy from wind, solar, biomass, geothermal, hydro power and hydrogen-based sources. All projects must be located in a rural area, must be technically feasible, and must be owned by the applicant.. Legal authority and responsibility - Each applicant must have, or obtain, the legal authority necessary to carry out the purpose of the grant.
- Objectives: The Rural Energy for America Program will provide funds to agricultural producers and rural small businesses to purchase and install renewable energy systems and make energy efficiency improvements. The grants are awarded on a competitive basis and can be up to 25% of total eligible project costs. Grants are limited to \$500,000 for renewable energy systems and \$250,000 for energy efficiency improvements. Grant requests as low as \$2,500 for renewable energy systems and \$1,500 for energy efficiency improvements will be considered. At least 20% of the grant funds awarded must be for grants of \$20,000 or less.

National Administrator of the Solar Instructor Training Network

DE-FOA-0000228

- Application Due Date: 6/15/2010
 - Registration Requirements
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
 - Cooperative Agreement: DOE anticipates awarding a cooperative agreement under this program announcement (See Part VI.B.4 Statement of Substantial Involvement).
 - Estimated Funding: Approximately \$3,000,000-\$4,500,000 is expected to be available. Approximately \$500,000 is expected to be available for a new award in FY 2010 and an additional \$600,000 – \$1,000,000 is expected to be available for awards made under this announcement in years FY 2011 through FY 2014.
 - Estimated Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$4,500,000
 - Estimated Floor (i.e., the minimum amount for an individual award made under this announcement): \$3,000,000
 - DOE anticipates making one award under this announcement.
 - DOE anticipates that the award will be in the \$3,000,000 - \$4,500,000 range for the total project period.
 - DOE anticipates making one award that will run for five years.
 - Eligible Applicants: Domestic Entities Excluding Federal Agencies, FFRDC, and Nonprofit - 501(c)(4). The following domestic entities are eligible to apply for this announcement: (1) institutions of higher education; (2) nonprofit and for-profit entities; (3) State and local governments; and (4) consortia of entities (1) through (3). All types of domestic entities are eligible to apply, except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
 - Cost Sharing: Cost sharing is encouraged, but not required.
- Objectives: With this FOA, DOE seeks to select a National Administrator, a central coordinating body which will serve the following main functions:
- Manage the collaboration of the Regional Resource and Training Providers (RTPs), coordinate their joint activities, and, where applicable, assist them in the completion of their project goals;
 - Work with a broad set of stakeholders, define and prioritize issues related to solar training and workforce development (some defined in Section 5.B.vi., below on Issue Areas). Develop and carry out a strategy – such as convening, facilitating and coordinating working groups which include the RTPs and other stakeholders – to address these issues; and
 - Serve as the national point of contact for the solar instructor training network, disseminating the working groups' products, and conducting other communication and outreach efforts such as providing recommendations to stakeholders for the acceptance and adoption of best practices.
 - The Recipient will be responsible for validating the findings of the working groups and integrating validated products and deliverables into the solar instructor training network and into the larger educational, training and workforce development infrastructure.

- During the course of the five-year project, the National Administrator and the RTPs will work together to ensure the success of the following expected outcomes:
- Development of a network which is responsive to the needs of employers and educators, and which integrates technology updates into its training programs and products;
- Increased capacity of educational providers, such as community colleges, career and technical education centers, trade unions and others to train workers in careers dealing with the PV and SHC installation process;
- Development and dissemination of products and deliverables such as model curricula according to occupation and experience level, lessons learned, and best practices;
- State and local government access to information and resources which aid those entities in understanding how solar training and workforce development interrelates with policy; and
- Inclusion of PV and SHC theory and application into educational, training and workforce development infrastructures.

Geothermal Energy Production from: (A) Low-Temperature Resources; (B) Coproduced Fluids; and (C) Geopressured Resources

DE-FOA-0000318

- Application Due: July 9, 2010 (go to <http://www.grants.gov> for more information)
- Registration Requirements
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
- Estimated Funding: For all Topic Areas, approximately \$20M total is expected to be available for this FOA. \$10M is expected to be available for new awards in FY 2010 and an additional \$10M total is expected to be available for awards made under this announcement in years FY 2011 through FY2012 for Phase II and beyond.
- Anticipated Funding
 - Topic Area: A \$1,500,000 (Ceiling of \$750,000, no floor)
 - Topic Area: B \$1,500,000 (Ceiling of \$750,000, no floor)
 - Topic Area: C \$5,000,000 (Ceiling of \$750,000, no floor)
- Period of Performance: For all Topic Areas, DOE anticipates making awards that will continue for up to 36 months over two budget periods. The first budget period (Phase 1) is expected cover a period of 10 months with an option for Phase 2 and 3 activities to run for an additional 26 months, contingent upon renewal of the award following a competitive project review (down-select) planned for July 2011.
- Eligible Applicants: The following domestic entities are eligible to apply for this announcement as the prime applicant: (1) institutions of higher education; (2) nonprofit and for-profit private entities; and (3) State and local governments and (4) Federally Funded Research and Development Center (FFRDC) Contractors. Nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995 are not eligible.
- Cost Sharing: For all Topic Areas, the recipient cost share must be at least 20% of the total allowable costs for Phase 1, and 50% of the total allowable costs for Phases 2 and 3 of proposed projects and must come from non-Federal sources unless otherwise allowed by law. The sum of the Government share, including FFRDC contractor costs, if applicable, and the recipient share of allowable costs equals the total allowable cost of the project. (See 10 CFR Part 600 for the applicable cost sharing requirements.)
- Objectives: DOE hopes to expand its partnership with the geothermal community on geothermal systems research, demonstration, and development (RD&D) throughout the United States. The intent of this FOA is to evaluate the feasibility of and demonstrate energy production (technically and economically) from nonconventional geothermal resources in an innovative manner.
 - Topic Area A: Low-Temperature Geothermal Fluids at temperatures up to 300° Fahrenheit (F) or approximately 150° Celsius (C)
 - Topic Area B: Geothermal Fluids Coproduced from productive, unproductive, or marginal oil and/or gas wells; other hydrocarbon production; or mineral recovery/mining operations
 - Topic Area C: Geopressured Resources that show potential for economic recovery of heat, kinetic energy, and gas
- Projects will be funded under this FOA for Phase 1 only. However, applications for this FOA

should include detailed scope and budget information for all phases of the proposed project. A competitive down-selection process, in which award progress will be reviewed and rated accordingly by DOE, will occur upon completion of Phase 1 activities. Therefore, budget information by phase as well as cumulative figures must be provided within the application. Funding beyond Phase 1 of these awards is also subject to Congressional appropriations and availability of funds. Therefore, recipients of Phase 1 funding are not guaranteed funding beyond Phase 1 based on these factors.

- Phase 1: *Feasibility Study and Engineering Design and Permitting*
- Phase 2 – *Procurement, Installation, and Commissioning of Equipment*
- Phase 3 – *Operation & Maintenance (O&M)*

Genomic Science and Technology for Energy and the Environment

DE-FOA-0000368

- Pre-Application Due Date: June 28, 2010
- Application Due Date: September 10, 2010
- Registration Requirements: There are several one-time actions you must complete in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov.
- Estimated Funding: up to \$10 million total will be available for multiple awards to be made in FY 2011. The number of awards will be contingent on satisfactory peer review, the availability of appropriated funds, and the size of the awards. Multiple year funding is expected. Applications may request project support for up to three years, with out-year support contingent on the availability of funds, progress of the research, and programmatic needs. Annual budgets are expected to range from \$250,000 to \$750,000 in total costs.
- Eligible Applicants: All types of entities are eligible to apply, except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
- Cost Sharing: None Required
- Objective: receiving applications for research that supports the Genomics Science Program and addresses DOE's missions in energy and the environment in the following research areas:
 - Microbial Environmental Processes: To develop a systems-level understanding of the functional processes used by microbes and microbial consortia that link the internal metabolic processes of microbial species to their external biogeochemical activities;
 - Microbial and Plant Processes for Bioenergy: To develop new approaches that advance our understanding of the systems biology of plant and microbes in producing biofuels including the utilization of lignocellulosic biomass and microbial synthesis of advanced biofuel;
 - Characterizing Key Molecular Species, Events, and Multicellular Processes for Genomic Science: To develop innovative technology approaches to characterize biological processes and networks at the subcellular, cellular and multicellular levels.
- The proposed research is intended to fill critical knowledge gaps, including the exploration of high-risk approaches. BER also encourages the submission of innovative "high- risk" applications with potential for future high impact on Genomic Science Research. The probability of success and the risk-reward balance will be considered when making funding decisions.
- Applications must focus on one or more of the following research areas:
 - Approaches that identify and measure in real-time, the concentration(s), dynamics or spatial distribution of one or more important categories of biomolecular species such as metabolites, lipids and carbohydrates that are components of key processes and networks in cells and multicellular communities but currently cannot be quantitatively measured and spatially resolved with high precision.
 - Approaches that combine advances in two or more technologies to improve the identification and characterization of small populations of molecules or cell types in complex, heterogeneous systems.
 - Approaches that utilize a single or a combination of analytical and/or imaging techniques to simultaneously measure the real time dynamic behavior of two or more functionally important biomolecular species (particularly those that interact or are

coupled), with temporal resolution of milliseconds to minutes and spatial resolution of nanometer to millimeters.

- Advanced analytical and imaging technologies that characterize functional multicellular or multiorganism (e.g. microbial communities) systems in their natural environment. Approaches that can generate and integrate data from different spatial and temporal scales are encouraged.
- Approaches using advanced analytical and imaging technologies to determine the environmental variables that influence microbial community structure and function and the relationships between microbial community structure and functional heterogeneity.
- Organisms of Interest to DOE: Candidate microbial systems for study should comprise archaea, bacteria, algae and/or fungi in communities that mediate or catalyze processes that are of importance to bioenergy or environmental stewardship related to subsurface terrestrial biogeochemical processes.
- Genome or metagenome sequencing is outside the purview of this FOA.
- For more information go to www.grants.gov

Solid-State Lighting Product Development – Round 7

DE-FOA-0000330

- Application Due Date: 07/14/2010
- Registration Requirements: go to <http://www.grants.gov> for more information
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
- Estimated Funding: Approximately \$10,000,000 is expected to be available for new awards under this announcement (no ceiling or floor): 5-10 awards expected
- Anticipated Award Size: DOE anticipates that awards will not exceed \$2,000,000 DOE Share per award (plus a minimum cost share of at least 20%) for up to two (2) years of effort.
- Eligible Applicants: All types of domestic entities including DOE/NNSA National Laboratories (as defined by EAct 2005, Section 989) are eligible to apply, except for other Federal agencies and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
- Cost Sharing: The cost share must be at least 20% of the total allowable costs for research and development projects (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 CFR 600 for the applicable cost sharing requirements.)
- Summary: The Department of Energy (DOE), National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy's (EERE's) Building Technologies (BT) Program, is seeking applications for applied research in the Solid-State Lighting (SSL) Product Development Program.
 - The objective of this Announcement is to develop or improve commercially viable materials, devices, or systems for solid-state lighting general illumination applications. Specific emphasis shall be on achieving the performance and cost goals stated in the 2010 Multi-Year Program for Solid State Lighting Research and Development (2010 SSL MYPP) which can be found at http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl_mypp2010_web.pdf. Successful approaches shall demonstrate a technology path that moves beyond the current performance levels detailed in the MYPP towards the future performance targets identified for the respective priority metric.
- Areas of Interest: Light Emitting Diodes (LED) Program Areas of Interest
 - Area of Interest 1: Substrate Development
 - Area of Interest 2: Semiconductor Material
 - Area of Interest 3: Phosphors
 - Area of Interest 4: Package Architecture
 - Area of Interest 5: Color Maintenance
 - Area of Interest 6: Optimizing System Reliability
- Areas of Interest: Organic Light Emitting Diodes (OLED) Program Areas of Interest
 - Area of Interest 7: Low-Cost Electrodes
 - Area of Interest 8: Large Area OLED
 - Area of Interest 9: Panel Packaging
 - Area of Interest 10: Light Extraction
 - Area of Interest 11: Panel Reliability

Midsize Turbine Development Projects

DE-FOA-0000327

- Application Due Date: 07/14/2010
- Registration Requirements: go to <http://www.grants.gov> for more information
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
- Estimated Funding: Approximately \$ 6,028,000 is expected to be available for new awards under this announcement.
- Amount Multiple Year Awards: Approximately \$ 2,028,000 is expected to be available for new awards in FY 2010 and an additional \$ 4,000,000 in incremental funding is expected to be available for awards made under this announcement in year FY 2011. Out-year funding is subject to annual appropriations.
- Maximum and Minimum Award Size
 - Ceiling (i.e., the anticipated maximum amount for an individual award made under this announcement):
 - Budget Period 1: \$1,000,000
 - Budget Period 2: \$2,500,000
 - Floor (i.e., the anticipated minimum amount for an individual award made under this announcement):
 - Budget Period 1: \$500,000
 - Budget Period 2: \$1,000,000
- Expected Number of Awards: DOE anticipates making approximately 2-4 initial awards under this announcement.
- Anticipated Award Size: While the maximum award size (i.e., the ceiling) is \$ 3,500,000, DOE anticipates that awards will be in the \$ 2,000,000- \$3,000,000 range for the total project costs.
- Period of Performance: DOE anticipates making awards that will run for up to 2 years over two budget periods. The first budget period will cover the first year with an option for a continuation of up to an additional one year, contingent on an evaluation of project progress and performance in Budget Period 1. Evaluation for continuation of Budget Period 2 funding will be based on a continuation application submitted by each recipient. At DOE's discretion, recipients will qualify for incremental follow-on funding.
- Eligible Applicants: The following domestic entities are eligible to apply for this announcement: (1) institutions of higher education; (2) nonprofit and for-profit private entities; (3) State and local governments and (4) DOE/NNSA National Laboratory contractors and FFRDC contractors are eligible to apply. Nonprofit organizations described in section 501(c)(4) of the Internal revenue Code of 1986 that engaged in lobbying activities after the December 31, 1995 are not eligible.
- Cost Sharing: The cost share must be at least 60% of the total allowable costs of the project in Budget Period 1 and the cost share must be at least 80% for Budget Period 2 (i.e., the sum of the Government share including FFRDC contractor costs if applicable and the recipient share of allowable costs equals the total project costs) and must come from non-Federal sources unless otherwise allowed by law (See 10 CFR Part 600 for the applicable cost sharing requirements.). Please refer to Appendix C for blended cost share calculations.
- Objectives: This Funding Opportunity Announcement (FOA) is in response to the Wind and Water Power Program's FY10 budget request to Congress for a new collaborative effort to develop midsize wind turbines. This will be accomplished through the direct approach of awarding grants

to domestic entities or partnerships which presently have, at minimum, existing detailed design plan specifications and a developed prototype for a midsize turbine. Applicants will be assessed on how well they demonstrate the potential to meet the goals and objective of the FOA and the evaluation criteria as defined in Section V, Application Review Guidelines. The following key points should be addressed:

- (1) midsize wind turbine technology advancements through innovation.
- (2) Value engineering to produce a cost competitive product for both the domestic and global markets. A value engineered wind turbine goes through an organized process to increase value by examining systems, facilities, procedures, and supplies to reduce costs without jeopardizing efficiency, reliability, or maintainability.
- (3) U.S. job creation and wind industry growth through the engagement of U.S. manufactures and supply chain vendors
- (4) a detailed plan for the accelerated product development and testing to reach commercial readiness.

Innovation Ecosystem Development Initiative

DE-FOA-0000356

- Applications Due: July 9, 2010
- Registration Requirements: go to <http://www.grants.gov> for more information
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
- Estimated Funding: 2 total awards under this announcement
 - Total Estimated Cost of the Project: \$2,625,000
 - Total DOE Funding Anticipated: \$2,100,000
 - Cost Share Requirement: 20%
 - Fiscal Year of Initial Funding: 2010
 - Initial Funding for Projects: \$700,000 (FY 2010) for up to two grantees
 - Second Year Funding for Projects: \$700,000 (FY 2011) for same two grantees
 - Third Year Funding for Projects: \$700,000 (FY 2011) for same two grantees
 - Total Funding for One Grantee: \$1,050,000 over three years
 - It is anticipated that up to \$2,100,000 will be available for two awards to be made in Fiscal Year 2010. Funds for this program will come from the Energy Efficiency and Renewable Energy Program. A 20% cost share is mandatory. DOE is under no obligation to pay for any costs associated with preparation or submission of applications. DOE reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to this FOA.
 - Applicants may request project support for up to three years, with year 2 and year 3 support contingent on the availability of funds and the progress demonstrated by the project. Annual budgets may not exceed \$350,000/year total costs, or \$437,500/year with required Cost Share included.
- Maximum and Minimum Award Size
 - Ceiling (i.e., the maximum amount for an individual award made under this announcement): \$350,000/year (\$437,500/yr with Cost Share) and/or \$1,050,000 total (\$1,312,500 total with Cost Share)
 - Floor (i.e., the minimum amount for an individual award made under this announcement): N/A
- Anticipated Award Size DOE anticipates that awards will be approx. \$1,312,500 (\$1,050,000 DOE plus cost share) with an estimated project period of three years.
- Eligible Applicants: All types of entities are eligible to apply except other Federal agencies and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
- Cost Sharing or Matching: The cost share or match must be at least 20% of the total allowable costs of the project (i.e., the sum of the recipient's allowable costs and the Federal Government share equals the total allowable costs of the projects) and must come from non-Federal sources. (See 10 CFR 600 for the applicable cost sharing requirements.)
- Objective: The Innovation Ecosystem Development Initiative will address the need to create or enhance an environment to accelerate the movement of innovative energy technologies to the market. America's research universities are an invaluable resource for new clean energy ideas but not all have been efficient in connecting their research results with the entrepreneurs,

venture capitalists, and other resources needed to move technology innovations rapidly from the university into the marketplace. The intent of this announcement is to fund the creation of new programs or the expansion of existing, successful programs. The expected results of this solicitation are to accelerate the rate of movement of innovative energy efficiency and renewable energy concepts from university laboratories to the market.

- This announcement invites organizations with experience in commercializing innovations in energy efficiency and renewable energy to submit applications that describe the proposed “innovation ecosystem.” The description may include:
 - The network of leaders, service providers, and entrepreneurs who are expected to participate.
 - Connections to sources of capital (angel networks, venture community, other financial institutions).
 - Strategies for mentoring and training future entrepreneurs.
 - Programs that would encourage and train graduate-level researchers to start up small, innovative businesses.
 - Other sources of funding that can leverage the federal investment.
 - The composition of a board of advisors or evaluation panel.
 - An explanation of how federal funds will be leveraged with non-federal funds.

Enhancing Short Term Wind Energy Forecasting For Improved Utility Operations

DE-FOA-0000343

- Applications Due: July 13, 2010
- Registration Requirements: go to <http://www.grants.gov> for more information
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
- Type of Award Instrument: DOE anticipates awarding cooperative agreement(s) under this program announcement (See Part VI.B.4 Statement of Substantial Involvement).
- Estimated Funding: Approximately \$895K is expected to be available for new awards in FY 2010 and an additional \$2.105M is expected to be available for awards made under this announcement in FY 2011. The actual level of funding for FY 2011 depends on appropriations.
- Expected Number of Awards: DOE anticipates making 1-2 awards under this announcement.
- Anticipated Award Size: DOE anticipates that awards will be in the \$500K - \$3.0M range for the total project period.
- Period of Performance: DOE anticipates a period of performance of 24 months.
- Eligible Applicants: All domestic applicants are eligible to apply for this FOA, except nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
- Cost Sharing : The cost share must be at least 20% of the total allowable costs for research and development projects (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 CFR Part 600 for the applicable cost sharing requirements.) A blended cost share calculations worksheet is in Appendix C.
- Summary: This FOA will provide funding to a recipient to work in collaboration with federal participants (NOAA/DOE) to meet an emerging national need for more precise wind forecasts than are currently available. Accuracy of commercial wind energy forecasting services is limited to a large degree by core meteorological and forecast products available from the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service, which to date has not focused on providing foundational meteorological information optimized for wind energy. This project seeks to research and test whether improved meteorological observations will provide more accurate wind forecasts that can be utilized within the public/private sector to facilitate grid operations.
- Project Objectives: Specific objectives of this FOA are to fund projects that will:
 1. Improve atmospheric observations over and in the vicinity of the region of interest with particular focus on wind speed and direction within turbine heights. Increase accuracy of predicted wind direction and speed change in short-term (0-6 hr) forecasts.
 2. Test and analyze the impact of improved short-term forecasts on wind plant power output predictions, and determine resultant economic benefits to electric power system operations.
 3. Develop new metrics that better reflect the value of wind forecasts on the electric power systems, and compare with existing metrics.
 4. Disseminate project results to contribute to improvement in the state-of-the-art of short-term forecasting methods, and inform efforts to define national-scale mesonet

weather data systems needed to support wind energy forecasting as well as other resource characterization requirements for broad use of wind energy

- The project should include the following basic components:
 - Sensor Deployment: Surface and atmospheric profiling sensors will be deployed in a selected region to augment existing observations. The sensors will be provided by NOAA (and the recipient, if applicable) and deployed by NOAA and the recipient within the recipient's proposed region, nominally 800 x 800 kilometers in scale*.
 - Test Data Collection/Assimilation: Data from the sensors must be reliably collected for assimilation into NOAA's mesoscale weather forecasting model or used for model verification.
 - Wind Plant Power Output Prediction: The test data produced from numerical weather prediction model(s) will be used for predicting wind plant power generation, and incorporated into electric power system operations.
 - Data Analysis and Evaluation: Analyses will be conducted to quantify the effects of the added data on wind prediction accuracy, the ability to accurately identify magnitude and timing of "ramp events", and power system operational efficiency benefits attributable to improved wind prediction.

Sustainable Bioenergy Feedstock Production Systems

DE-FOA-0000314

- Applications Due: July 16, 2010
- Registration Requirements: go to <http://www.grants.gov> for more information
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
- Estimated Funding: Approximately \$ 5,000,000 is expected to be available for new awards under this announcement. Approximately \$ 3,000,000 is expected to be available for new awards in FY 2010. The actual level of funding for this program, \$ 3,000,000, has been appropriated, with the remainder (\$ 2,000,000) anticipated in out-years. All awards are subject to the availability of funding.
- Maximum and Minimum Award Size: Ceiling: \$ 5,000,000. Floor: \$ 500,000.
- Expected Number of Awards: DOE anticipates making 1-5 awards under this announcement, depending on the size of the awards.
- Anticipated Award Size: DOE anticipates that awards will be in the \$ 500,000 to \$ 5,000,000 range for the total project period. DOE expects to fund up to \$ 1,000,000 per year for up to 5 years. If requested annual levels are higher, applicants must justify the need for more funds in their application, consistent with the ceiling on individual awards described in paragraph C above.
- Period of Performance: DOE anticipates making awards that will run for up to 5 years.
- Eligible Applicants: All domestic entities are eligible to apply for this FOA, except nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995. Any DOE/National Nuclear Security Administration (NNSA) FFRDC contractor applying as the prime cannot exclusively withhold its services to only its application and must make itself available to other applicants on a non-exclusive basis.
- Cost Sharing: The cost share for all projects must be at least 20% of the total allowable costs for research and development projects (i.e., the sum of allowable costs, including the Government share, the recipient share and the FFRDC contractor share, if applicable, equals the total allowable cost of the project). Cost share must come entirely from non-Federal sources unless otherwise allowed by law. (See 10 CFR Part 600 for the applicable cost sharing requirements.)
- Objective: quantify and better understand the relative impacts on the environment of different strategies for producing large quantities of intensively managed, high-yielding energy crops, and crop and forestry residues at the watershed scale. The nascent cellulosic biomass industry and its stakeholders require this information and knowledge for sustainable implementation of energy crop production systems at the watershed scale.
- Watershed scale studies include data collection, verification, analyses, and assimilation of environmental and ecological variables in response to the control and experimental production system(s) being evaluated. Generally, these variables include: (1) soil erosion and sediment loading; (2) water yield and quality; and (3) long-term site productivity.
- In order to accomplish the objectives of this FOA, one or more of the following research objectives must be addressed at the watershed level:
 - A sustainability assessment of a single species of energy crop;
 - A sustainability assessment of multiple species of energy crops (which may include residues) within the watershed;

- A sustainability assessment of multiple species of energy crops (which may include residues) on the same site within the watershed;
 - A sustainability assessment of energy crops interspersed within other agricultural and forestry production systems;
 - A sustainability assessment of selected levels of intensity and management practices for selected energy crops (which may include residues).
- This FOA requests that each application provide:
 - background ecological process and function data, analysis, and/or models that can serve as the basis for hypothesis, experimental design and testing, and validation of sustainable management strategies for selected cellulosic feedstock crops at the watershed level; and
 - watershed-specific information to develop a new or improved model and/or tools for deploying the selected feedstock crops in an environmentally sustainable, economically viable and socially acceptable manner within related landscapes of the geographic area.

Upgrading of Biomass Fast Pyrolysis Oil (Bio-oil)

DE-FOA-0000342

******Applicants are cautioned that at least 21 days must be allotted for the registration process. Exception to the application due date will not be made for a failure to start the registration process on time.******

- Application Due Date: 07/9/2010
- Registration Requirements: go to <http://www.grants.gov> for more information
 - Applicants must obtain a DUNS number. <http://fedgov.dnb.com/webform>
 - Applicants must register with the CCR. <http://www.ccr.gov/>
 - Applicants must register with Grants.gov. <http://grants.gov/>
 - Applicants must register with FedConnect. www.fedconnect.net
- Estimated Funding: Approximately \$3,000,000 is expected to be available for new awards in FY 2010 and an additional \$8,000,000 is expected to be available for awards made under this FOA in years FY 2011 through FY 2012, subject to annual appropriations.
- Maximum and Minimum Award Size: Ceiling \$3,500,000, Floor \$1,500,000
- Expected Number of Awards: 3-4 awards under this FOA depending on the size of the awards.
- Anticipated Award Size: \$1,500,000 - \$3,500,000 range for the total project period.
- Period of Performance : DOE anticipates making awards that will run for up to 3 years.
- Eligible Applicants: All domestic entities are eligible to apply for this FOA, except nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995. Any Federally Funded Research and Development Center (FFRDC) Contractor applying as the prime cannot exclusively withhold its services to only its application and must make itself available to other applicants on a non-exclusive basis.
- Cost Sharing: The cost share must be at least 20% of the total allowable costs for research and development projects (i.e., the sum of the Government share, including FFRDC contractor costs if applicable, and the recipient share of allowable costs equals the total allowable cost of the project) and must come from non-Federal sources unless otherwise allowed by law. (See 10 CFR Part 600 for the applicable cost sharing requirements.) Any non-domestic partners are required to bring their own cost share to the project.
- Executive Summary: This funding opportunity announcement (FOA) is requesting applications to develop integrated upgrading processes of bio-oil at the bench scale that:
 - Demonstrate the capability of long term processing to address the corrosivity issues associated with stabilized bio-oil;
 - Catalytically de-oxygenate the many molecular fragments that collectively comprise bio-oil;
 - Demonstrate the ability to produce a final liquid transportation hydrocarbon fuel that can be blended at up to 30% by weight with ASTM petroleum fuels OR produce an upgraded bio-oil compatible with existing petroleum refining unit operations; and
 - Provide extensive supporting data on the physical and chemical property requirements of the petroleum operations to demonstrate the compatibility of the resulting liquid hydrocarbon product with petroleum refining unit operations.
- Description: This FOA is requesting applications to develop integrated upgrading processes at the bench scale that will be capable of long term processing to address the corrosivity issues associated with stabilized bio-oil. It is expected that the upgrading technologies will involve the catalytic de-oxygenation of the many molecular fragments that collectively comprise bio-oil. The proposed upgrading process must demonstrate the ability to produce a final liquid transportation hydrocarbon fuel that can be blended at up to 30% by weight with ASTM

petroleum fuels OR produce an upgraded bio-oil compatible with existing petroleum refining unit operations. The compatibility of the resulting liquid hydrocarbon product with petroleum refining unit operations must be supported with extensive data on the physical and chemical property requirements of the petroleum operations.